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10/662,017	09/11/2003	Jeremy Harris	SUN-P9556	8584

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MARTINE PENILLA & GENCARELLA, LLP  
710 LAKEWAY DRIVE  
SUITE 200  
SUNNYVALE, CA 94085

EXAMINER
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YACOB, SISAY

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/662,017	<b>Applicant(s)</b> HARRIS, JEREMY	
	<b>Examiner</b> Sisay Yacob	<b>Art Unit</b> 2612	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 September 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1 The application of Harris "System and method for detecting the connection state of a network cable connector" filed on September 11, 2003 has been examined.

Claims 1-39 are pending.

### **Drawings**

2 The drawings are objected to under 37 CFR 1.83(a) because they fail to label boxes (101, 109 and 111 in figure 1), (201, 203, 204, 205 and 207 in figure 2), (201, 205, 301, 302, 303, 305 and 111 in figure 3), (401, 441, 447 and 111 in figure 4) and (501A and B, 503, 504, 507, 509 and 513 in figure 5) and all subsequent boxes, as to labeling figures is different from reference numerals as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing, MPEP § 608.02(d).

### **Claim Rejections - 35 USC § 102**

3 The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent

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granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4        Claims 1-4 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by US patent of Rand et al., (6,459,374).

5        As to claim 1, Rand et al., discloses a method for detecting a network cable disconnection (Col. 2, lines 5-31), said method comprising detecting a change of connection state of a connector (Item 10 of figure 1) of using a sensor (Item 15 of figure 1) that resides in said connector (Col. 3, lines 17-25), generating connection state information from information supplied by said sensor (Col. 3, lines 29-54), and communicating said connection state information to a connection state monitoring utility (Col. 3, lines 60-64; Col. 4, lines 1-11; Item 30 of figure 1).

6        As to claim 2, the method as described in claim 1, further, Rand et al., discloses wherein said connector is a cable plug (Col. 3, lines 60-64; Items 12 and 21 of figure 1).

7        As to claim 3, the method as described in claim 1, further, Rand et al., discloses wherein said connector is a socket (Col. 3, lines 60-64; Items 31 and 52 of figure 1).

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8 As to claim 4, the method of claim 1, further, Rand et al., discloses wherein said sensor includes a switch selected from the group that includes mechanical, electrical, resistive, optical and capacitive switches (Col. 4, line 2; Item 40 of figure 3).

9 As to claim 7, the method of claim 2, further, Rand et al., discloses wherein said cable plug is attached to an endpoint of said network cable (Items 12 and 21 of figure 1).

### **Rejections - 35 USC § 103**

10 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12 Claims 5, 6, 8, 9, 12-19, 22-32 and 35-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rand et al., in view of U.S. Patent of Billiard (6,842,114).

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13 As to claim 14, Rand et al., discloses a method for detecting a network cable connection state (Col. 2, lines 5-31), said method comprising detecting a state change of a cable connector (Item 10 of figure 1) using a contact sensor (Item 15 of figure 1) that resides in said cable connector (Col. 3, lines 17-25), generating connection state information from information supplied by said contact sensor (Col. 3, lines 29-54), and communicating said connection state information to said connection monitoring utility (Col. 3, lines 60-64; Col. 4, lines 1-11; Item 30 of figure 1). However, Rand et al., does not expressly disclose receiving an interrogation signal from a connection state monitoring utility and using a network communication protocol. Billiard discloses a method for detecting a network cable disconnection (Col. 2, lines 24-36), receiving an interrogation signal from a connection state monitoring utility (Col. 14, lines 57-67; Col. 15, lines 1-28).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a method for detecting a network cable connection state that incorporates receiving an interrogation signal from a connection state monitoring utility, as disclosed by Billiard, because Rand et al., discloses the cable connector detection may be used as supervised or non-supervised and incorporating an interrogation signal enhance a supervised method for monitoring a network cable connection state. However, the combination of Rand et al., and Billiard does not expressly disclose using a network communication protocol.

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a method for detecting a network cable connection state that

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incorporates receiving an interrogation signal from a connection state monitoring utility that uses a network communication protocol, because Rand et al., discloses a USB connector and it is well known in the art that network cable connection using USB connection uses a network communication protocol.

14 As to claim 24, Rand et al., discloses a cable connector (Col. 2, lines 5-31; Item 10 of figure 1) comprising a sensor that senses a connection state of the connector and state change signal (Col. 3, lines 17-25, 29-54, 60-64; Col. 4, lines 1-11). However, Rand et al., does not expressly disclose a processor coupled to a sensor for executing the transmission of said connection state information over a communication network to indicate a connection state of said cable connector. Billiard discloses a processor (Item 3 of figures 1 and 2) coupled to a sensor (Item 1 of figures 1 and 2) and connector for executing the transmission of a connection state (See figure 7).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a processor coupled to a sensor and connector for executing the transmission of a connection state, as disclosed by Billiard, because Rand et al., discloses the cable connector detection may be used as supervised or non-supervised and incorporating a processor may facilitate a better condition for stand alone (non-supervised) method of monitoring a network cable connection state.

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15 As to claims 5, 16 and 25, the connector and method of claims 1, 14 and 24, further, Billiard discloses wherein said cable connector further comprises a processor and a memory (Col. 12, lines Col. 14, lines 21-30; Item 8 of figure 6).

16 As to claims 6, 17 and 26, the connector and method of claim 5, 14 and 24, further, Billiard discloses a transmission control protocol (Col. 14, lines 1-20), however, the combination of Rand et al., and Billiard does not expressly disclose the communication protocol selected from the group that includes IPv6 (Internet Protocol Version 6), TCP (Transmission Control Protocol), finger, and SNMP (Simple Network Management Protocol).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have the communication protocol selected from the group that includes IPv6 (Internet Protocol Version 6), TCP (Transmission Control Protocol), finger, and SNMP (Simple Network Management Protocol), because the protocols are well known in the art and widely used and one skilled in the art may choose a particular or a combination of different communication protocols as desired.

17 As to claim 8, the method of claim 5, further, Billiard discloses wherein said connector receives a communication that interrogates said sensor regarding the connection state of said connector (Col. 2, lines 24-36; Col. 14, lines 57-67; Col. 15, lines 1-28).



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18 As to claims 9, 19 and 30, the connector and method of claims 1, 14 and 24, further, Billiard discloses the combination wherein said connection state information is transmitted wirelessly to said connection state monitoring utility (Col. 10, lines 45-50).

19 As to claims 12, 22 and 38, the connector and method of claims 1, 14 and 26, further, Billiard discloses detecting, generating and communicating information related to power status, fuse status, carrier signal status and temperature (Col. 9, lines 9-26; Col. 13, lines 18-27).

20 As to claims 13, 23 and 39, the connector and method of claims 1, 14 and 26, further, Rand et al., discloses wherein electrical power for detecting said network cable disconnection is obtained from the network (Col. 3, lines 48-54).

21 As to claims 15 and 31, the connector and method of claims 14 and 24, further, Rand et al., discloses wherein said sensor includes a switch selected from the group that includes mechanical, electrical, resistive, optical and capacitive (Col. 4, line 2; Item 40 of figure 3).

22 As to claim 18, the method of claim 17, further, Rand et al., discloses wherein a cable plug is attached to an endpoint of said network cable (Items 12 and 21 of figure 1).

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23 As to claim 27, the connector of claim 24, further, both Rand et al., and Billiard disclose wherein said sensor is a contact sensor (Col. 3, lines 17-25 of Rand et al.).

24 As to claim 28, the connector of claim 24, further, Billiard discloses wherein said processor operates in response to an interrogation signal to ascertain connection state information (Col. 14, lines 57-67; Col. 15, lines 1-28).

25 As to claim 29, the connector of claim 24, further, Billiard discloses wherein said processor operates in response to said connection state change signal (Col. 2, lines 48-54).

26 As to claim 32, the connector of claim 24, however, the combination of Rand et al., and Billiard does not expressly disclose wherein said cable connector comprises an RJ45 twisted pair connector.

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a cable connector comprises an RJ45 twisted pair connector, because one skilled in the art may use any available network connector cable, which includes RJ45 twisted pair. RJ45 cable is well known in the network connection cable art and widely used.

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27 As to claim 35, the connector as described in claim 24, further, Rand et al., discloses wherein said cable connector is a plug (Col. 3, lines 60-64; Items 12 and 21 of figure 1).

28 As to claim 36, the connector as described in claim 24, further, Rand et al., discloses wherein said cable connector is a cable socket (Col. 3, lines 60-64; Items 31 and 52 of figure 1).

29 As to claim 37, the connector as described in claim 24, further, Billiard discloses wherein said cable connector is a power connector (Col. 4, lines 55-67).

30 Claims 10, 11, 20, 21 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rand et al., in view of Billiard and further in view of US patent of Laor (6,002,331).

31 As to claim 10, the method of claim 1, however, the combination of Rand et al., and Billiard does not expressly disclose wherein a unique identification is mapped to a connector. Laor discloses a unique identification being mapped to a connector (Col. 7, lines 27-44; Item 300 of figure 5).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a unique identification is mapped to a connector, as disclosed by

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Laor, so that it would be desirable to identify different cable connectors correctly where the connector is used in a large network environment.

32 As to claim 11, the method of claim 10, further, Laor discloses communicating said unique identification with said connection state information (Col. 7, lines 53-59).

33 As to claims 20 and 33, the connector and method of claims 16 and 25, further, Laor discloses wherein a unique identification is mapped to a memory of said cable connector (Col. 6, lines 51-62).

34 As to claims 21 and 34, the connector and method of claims 14 and 25, further, Laor discloses memory records a cable connector information and reading the cable connector status (Col. 5, lines 39-60).

It would have been obvious, to one of ordinary skill in the art, at the time of the invention, to have a memory records a cable connector change in state occurs and reading the time that said cable connector disconnected, so that it would be desirable to identify different cable connectors connection status at various point in time as to facilitate proper diagnoses in case of a connection failure.

### **Conclusion**

35 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following cited arts are further to show the state of art related to detecting the connection state of a network cable connector.

In the U.S. Patent of (5,644,462) Boschetto et al., discloses ergonomically an electrical power cord having an illuminated connector including a circuit to protect a power and/or ground continuity indicator incorporated into the connector. The connector is illuminated if it is connected to an active power source with or without a functioning ground conductor, depending upon the electrical configuration within the connector. The circuit is designed to shield the indicator during an excessive voltage test in accordance with the UL specification for power cords.

In the U.S. Patent of (5,418,521) Read discloses a power cable includes an alarm member that integrally associated with the cable and includes an audible alarm which is responsive to an alarm switch positioned within either the first or the second connector.

In the U.S. Patent of (6,368,155) Bassler et al., disclose intelligent sensing connectors that are used to connect signal cables, especially high-speed signal cables, to an electronic device.

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36 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sisay Yacob whose telephone number is (571) 272-8562. The examiner can normally be reached on Monday through Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A. Hofsass can be reached on (571) 272-2981. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sisay Yacob

06/23/2006

S-Y

  
JEFFERY HOFSSASS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600